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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/058,657	01/28/2002	Toshihiko Suenaga	SIW-031	3863
959	7590	05/19/2004	EXAMINER	
LAHIVE & COCKFIELD, LLP. 28 STATE STREET BOSTON, MA 02109			DOVE, TRACY MAE	
			ART UNIT	PAPER NUMBER
			1745	
DATE MAILED: 05/19/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/058,657

Applicant(s)

SUENAGA ET AL.

Examiner

Tracy Dove

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 10-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9/23/02.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: IDS of 10/14/03.

## **DETAILED ACTION**

### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

The information disclosure statements (IDS) submitted on 9/23/02 and 10/14/03 have been considered by the examiner.

### ***Election/Restrictions***

Applicant's election of 3/12/04 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

### ***Claim Objections***

Claim 1 is objected to because of the following informalities: in the last line "outer edge of separator" should recite "outer edge of the separators". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

Claims 2, 8 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2 and 9 recite the limitation "said picture frame-shaped members". There is insufficient antecedent basis for this limitation in the claim. Claim 1 recites "a nonconductive picture frame-shaped member" (not "members").

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Claim 8 recites the limitation "the other reaction surface peripheral sealing member".

There is insufficient antecedent basis for this limitation in the claim.

Claim 9 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Clark et al., WO 97/24778.

Clark teaches a fuel cell having a plurality of components joined together in a stack. Clark teaches a seal member that has two components that are able to slide (increase/decrease space) relative to each other (abstract). A first component of the seal member is made of a deformable polymer material (elastic material) and a second component of the seal member is made of a non-deformable material, a metal, carbon, titania or a ceramic (pages 4-5). The peripheral end surfaces of the separators may be contained within the edge portions of the seal members (positioned) (see Figures).

Thus the claims are anticipated.

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Claims 1, 4 and 6-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Barton et al., WO 99/04446.

Barton teaches a resilient seal membrane electrode assembly for a fuel cell. The membrane electrode assembly 100 (MEA) includes an electrolyte sandwiched between two electrode. The fuel cell includes two separator plates 200 that sandwich the MEA. The frame-shaped seal member allows increase and decrease of a space between the separators while sealing a space between the separators (see Figures). The protrusions on the seal member may function as a separator positioning device. A resilient fluid impermeable seal (reaction surface sealing member) integral with the MEA comprises a fluid impermeable sealant material impregnated into the first and second porous electrode layers in sealing regions thereof (4:23-25). The resilient fluid impermeable seal may have protrusions (162,190) as shown in Figures 3B and 3D.

Thus the claims are anticipated.

\*

Claims 1 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Woods, US 5,424,144.

Woods teaches a fuel cell comprising a one-piece separator having a peripheral raised seal region on a face of the separator. The separator comprises a metal plate. A peripheral insert ring is disposed in the peripheral channel, which insert ring and said peripheral raised seal region form seals between the faces of the pressed metal plate and an adjacent active cell component (abstract). At least Figure 4 teaches a fuel cell comprising an electrolyte (24,25), electrodes

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(22,23), a separator (21) and a seal member allowing for increase and decrease of a space between separators (note only a fuel half cell is shown).

Thus the claims are anticipated.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Breault et al. (US6,020,083) and Guthrie (US4,414,294) teach frame-shaped seal members for fuel cell stacks.

Mizuno (US6,440,597), Schilling et al. (US6,338,492) and Hekal (US4,748,092) teach seal members that allow for increases and/or decreases in the space between two separator plates.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tracy Dove whose telephone number is 571-272-1285. The examiner can normally be reached on Monday-Thursday (9:00-7:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Tracy Dove", is positioned above the printed name and title.

Tracy Dove  
Patent Examiner  
Technology Center 1700  
Art Unit 1745

May 17, 2004